IN THE SPECIFICATION:

Amend paragraph [0002] as follows:

[0002] ~~German Patent DE 198 43 242.9~~ The art describes a method of producing active and or selective catalysts from inorganic and organometallic solids or mixtures thereof, whereby potentially catalytic active individual components are first identified in the evolutionary search and optimization method, and by their randomized qualitative and quantitative combination with numerous materials, a first generation of mixed materials is produced and then subjected to catalytic testing. In addition, it has already been reported that to produce a new generation according to the principles of mutations and crossing, the best materials of the first generation are selected. This procedure has then been used further for all subsequent generations. However, it has been found that although this procedure leads to catalysts containing catalytically active components, other original components are already removed from the remaining selection process in the first or subsequent generations despite the fact that they could be necessary for an optimum catalyst.

Amend paragraph [0007] as follows:

[0007] Therefore, according to this invention, the process for producing active heterogeneous catalysts of an inorganic nature through selection of solid materials having various compositions and through restructuring of the original catalysts and

subsequent catalyst generations by means of stochastic methods and determination of the performance parameters of the respective catalyst generation and selection of the mixed catalysts of one or more catalyst generations is characterized in that the restructuring, if based on the principle of crossing, takes place in such a way that a mixed catalyst is randomly selected from a generation of catalysts by means of a numerical random generator with a uniform distribution (e.g., by means of the program code G05DYF of the NAG ~~Library~~ LIBRARY [NAG FORTRAN ~~Workstation Library,~~ WORKSTATION LIBRARY, NAG Group Ltd., 1986]), and a second mixed catalyst is selected from the same generation with the probability W by means of numerical random generators with a uniform distribution (for example, by means of a combination of the program codes G05DYF and G05DZF of the NAG ~~Library~~ LIBRARY [NAG FORTRAN ~~Workstation Library,~~ WORKSTATION LIBRARY, NAG Group Ltd., 1986]), where the following formulation is selected by W_i

$$W_i = \frac{\left(\sum_{j=1}^{n} j\right) - i}{\left(\sum_{j=1}^{n} j\right)}$$

Amend paragraph [0009] as follows:

[0009] and then from the two mixed catalysts to be crossed, at least one individual component which is present in only one of the two catalysts is selected according to the random principle by means of a numerical random generator with a uniform

distribution (for example, by means of the program code G05DYF of the NAG ~~Library~~ LIBRARY [NAG FORTRAN ~~Workstation Library,~~ WORKSTATION LIBRARY, NAG Group Ltd., 1986]) and two new catalyst compositions of the next generation are defined in such a way that the selected component is then added to the catalyst which did not contain this component in the preceding generation, while the component in the catalyst containing it originally is omitted,

Amend paragraph [00012] as follows:

[00012] that first a mixed catalyst is randomly selected from a catalyst generation by means of a numerical random generator with a uniform distribution (for example, by means of the program code G05DYF of the NAG ~~Library~~ LIBRARY [NAG FORTRAN ~~Workstation Library,~~ WORKSTATION LIBRARY, NAG Group Ltd., 1986]), and then a single component is selected according to the random principle by means of a numerical random generator with a uniform distribution (for example, by means of the program code G05DYF of the NAG ~~Library~~ LIBRARY [NAG FORTRAN ~~Workstation Library,~~ WORKSTATION LIBRARY, NAG Group Ltd., 1986]), and if this individual component is already contained in the mixed catalyst, it is removed or, if it has not yet been contained in this catalyst, it is added to it.

Amend paragraph [00021] as follows:

[00021] As explained above, the evolutionary strategies such as crossing and mutation (implemented in actual practice by using

numerical random generators with a uniform distribution B in contrast with random generators with a logarithmic normal distribution, a Weibull distribution, a Candy distribution, etc.) are implemented in this way, despite the fact that extraction and cubing are also equivalent stochastic methods. In the case of numerical random generators, the program codes G05CAF, G05DYF, G05DZF or G05CCF of the NAG ~~Library~~ LIBRARY (NAG FORTRAN ~~Workstation Library,~~ WORKSTATION LIBRARY, NAG Group Ltd., 1986) of a numerical random generator are used to advantage.

Amend paragraph [00039] as follows:

[00039] By repeating steps 2 and 3, a total of four catalyst generations were tested, including testing of a total of 224 catalytic material materials. The propylene yields of the ten best catalysts of a generation are shown in ~~Figure 2.~~ Figure 1. The compositions of the catalytic materials of the fourth generation are documented in Table 2.

Amend paragraph [00040] as follows:

[00040] Most mixed catalysts which give good yields consist of V, Mg, Mo, Ga or V, Mg, Ga. ~~Figure 2~~ Figure 1 shows that a reproducible increase in propylene yield of the most efficient catalyst of a generation is achieved from one generation to the next. The following compositions led to the best C_3H_6 yields: $V_{0.25}Mg_{0.52}Mo_{0.12}Ga_{0.11}O_x$. (first generation), $V_{0.47}Mo_{0.05}Mn_{0.27}Ga_{0.21}O_x$. (second generation), $V_{0.22}Mg_{0.47}Mo_{0.11}Ga_{0.20}O_x$ (third generation), $V_{0.27}Mg_{0.37}Mo_{0.12}Fe_{0.13}Ga_{0.11}O_x$. (fourth generation). The highest C_3H_6

yield was 9.0 % (selectivity 57.4 %).

Amend paragraph [00041] as follows:

[00041] In the compositions of the fourth generation, it is clear that even after the fourth generation, all the primary components are still represented in the generation, although the presence of components which did not lead to any significant propylene yield in the first generations is low. This is attributable to the selection principles for restructuring of the catalyst ~~described in patent claim 1,~~ according to the present invention, said principles ensuring a higher target accuracy of the optimization process than achieved with a purely performance-oriented catalyst selection. Thus, in comparison with ~~the method claimed according to Unexamined German Patent 198 43 242.9-41 (September 11, 1998) "Method of producing active and/or selective solid catalysts from inorganic and organometallic solids or mixture thereof" (authors M. Baerns, O. Buyevskaya, P. Claus, U. Rodemerck, D. Wolf),~~ methods known in the art, a higher catalyst performance is achieved in optimization with the procedure described above.